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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/729,434

12/05/2000

Mitsuhiko Kadono

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05/25/2006

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WASHINGTON, DC 20036

EXAMINER

RAO, SHEELA S

ART UNIT

PAPER NUMBER

2125

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/729,434

Applicant(s)

KADONO, MITSUHIKO

Examiner

Sheela Rao

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

#### DETAILED ACTION

1. Applicant's amendments and remarks filed February 20, 2004 has been entered and considered.
2. Claims 1-10 are pending and presented for examination. Claims 1, 7, and 8 have been amended.

#### *Specification*

3. The disclosure is objected to because of the following informalities:

The disclosure is replete with grammatical and idiomatic errors and inconsistencies. Applicant is advised to review the disclosure and make necessary corrections. The repeated use of "etc." and "each" (as on page 13) are a few examples.

Appropriate correction is required.

#### *Claim Objections*

4. Claims 1 and 2 are objected to because of the following informalities:

It seems that there is wording or phraseology missing at the end of claim 1, namely line 13 of the instant claim. As with claim 2, at line 5 "tool path data every machining area" seems incomplete.

Appropriate correction is required.

#### *Claim Rejections - 35 USC § 112*

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3, 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3: the limitation "a cutting etc." in line 4 is not distinct and does not establish the metes and bounds of the claimed invention;

Claims 7: the statement of dependency at line 4 of the instant claim is vague and does not render the claim as a whole to be dependent. The indication that "a tool path data generator as claimed in any of claims 1 to 6" only identifies dependency of the tool path data generator and not all the features of the instant claim. Additionally, the present recitation of limitations of claim 7 does not further limit the previous claims.

Claim 8: the statement of dependency at line 4 of the instant claim is vague and does not render the claim as a whole to be dependent. The indication that "a tool path data generation apparatus as claimed in claim 4" only identifies dependency of the tool path data generation apparatus and not all the features of the instant claim. Additionally, the present recitation of limitations of claim 8 does not further limit the previous claims.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,363,298 B1 to Shin et al. in view of US Patent 6,266,572 B1 to Yamazaki et al.

The patented invention of Shin et al. (hereinafter, "Shin") discloses an apparatus and method for generating tool paths for cutting physical parts. In doing so, the limitations of the instant invention are taught.

With regard to the limitations of instant claim 1, a tool path data generating apparatus with a feature data extractor wherein solid model data and surface model data are generated (col. 2:ll.27-41) is

explained. The process plan generator module generates and stores machining or cutting sequence rules like the tool cutting data storage device and the cutting method setting unit of the instant invention, see col. 2:ll. 50-57. Lastly, the tool path data generator is taught as the tool path generator module which produces tool path data based upon generated process plans, see col. 2: ll. 58-62.

As for the cutting method setting unit which classifies the feature data and sets the cutting method, Shin teaches this aspect of the invention at column 4, lines 1-29. The information generator that generates information related to cutting as claimed in instant claim 3 is explained in column 4 at lines 30-42 with reference to figures 5a and 5b. With regard to the cutting scenario output unit as per claim 4 teaches of an optimal machining sequence wherein predefined rules are associated with machining features

The tool path data generation apparatus including a numerically controlled cutting program as per claim 5, is taught by Shin at column 5, beginning at line 45. Shin addresses the operations of the tool path generator with generated NC tool path data files based on the process plan. A CATIA computer program is used by Shin to generate motion data to drive the NC machine, such as in claim 6 (col. 4: ll 58-67). The use of an executing unit to execute the processes based on the tool path data for controlling the NC machine tool as per claims 7 and 8, is taught by Shin as using the CATIA software to analyze and control the tool path, see col. 5: ll. 57-67.

Shin fails to teach the executing unit temporarily stopping the process when signaled and restating the process again at a signal as per claim 8. For this reason, the prior art invention of Yamazaki et al. is relied upon. At column 10, line 11, Yamazaki discusses the use of signals when the machining process deviates from an established relationship so as to suspended or resume the machining. It would have been obvious to one of ordinary skill in the art at the time the invention was made to included the suspension/resume signaling of the Yamazaki invention to the Shin process so as to avoid errors and eliminate faulty processing.

Yamazaki also teaches the rewriting and updating of stored data of the NC unit, see column 9, lines 23-29. Yamazaki teaches that upon receiving the updating signal from the control unit, the machining unit updates the machining data. It would have been obvious to one of ordinary skill in the art

at the time the invention was made to have included the updating and rewriting features of Yamazaki with the apparatus and methodology of Shin so as to have a unit that is easily modifiable and adaptable to changing data and environments.

With regard to claim 10, the inclusion of a database output unit for storing output data is present in both the Shin and Yamazaki inventions as both use data storage units.

For the reasons stated above, the limitations of the claimed invention is taught by the prior arts of record; thereby, rendering the instant claims unpatentable.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Ouchi et al.                      USPN 6,107,768

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela Rao whose telephone number is (571) 272-3751. The examiner can normally be reached Monday - Friday from 8:30 am to 4:30 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard, can be reached on (571) 272-3749. The fax number for the organization where this application or any proceeding papers is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. It should be noted that status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see

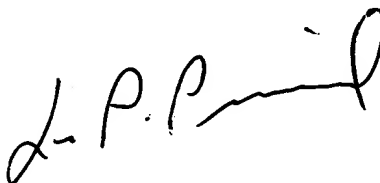
Art Unit: 2125

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<http://pair-direct.uspto.gov>. Should any questions arise regarding access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sheela S. Rao  
April 19, 2006



LEO PICARD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100